STN structure Search
5.17.06

10/507,239

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L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1196432 CAPLUS
DOCUMENT NUMBER: 143:460327
TITLE: Preparation of fluorinated 4-azasteroids as androgen receptor modulators
INVENTOR(S): Meissner, Robert S.; Perkins, James J.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005105091	A1	20051110	WO 2005-US13775	20050422

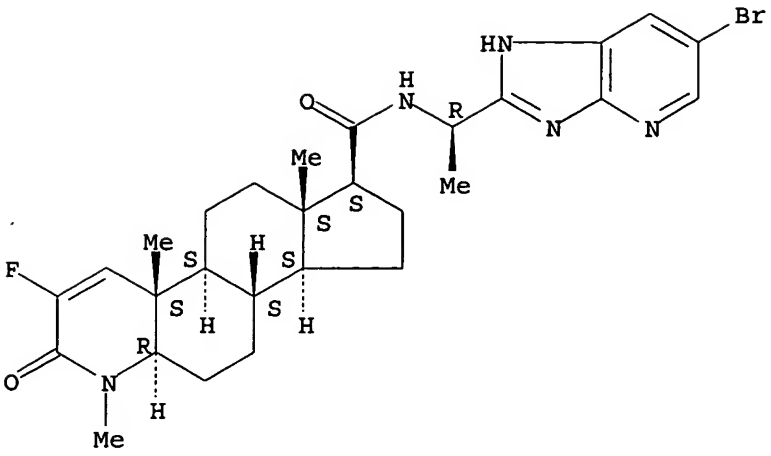
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-566044P P 20040428
OTHER SOURCE(S): MARPAT 143:460327
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Compds. I [X, Y = H, halogen, OH, C1-3-alkyl, C1-3-fluoroalkyl, with the proviso that when X = Me, Y ≠ Me; CXY = C3-6-cycloalkyl; Z = H, CO-(C1-3-alkyl), OH, C1-4-alkoxy, halogen, CH2OH, (C0-6-alkyl)2N, C1-3-alkyl, C1-3-fluoroalkyl, C1-4-fluoroalkoxy, with the proviso that when X = H, Y ≠ H] are modulators of the androgen receptor (AR) in a tissue selective manner. Thus, 4-azasteroid I [X = α-Me, Y = β-H, Z = H] was prepared from Me 4-methyl-3-oxo-4-aza-5α-androstane-17β-carboxylate (II) via regio- and stereoselective fluorination, regioselective dehydrogenation, sapoification and amidation with [1-(3H-imidazo[4,5-b]pyridin-2-yl)ethyl]amine dihydrochloride (III·2HCl) and separation of stereoisomers. III was prepared from (±)-Cbz-NHCHMeCO2H via amidation with 2,3-diaminopyridine, cyclocondensation in AcOH and hydrogenolytic N-deprotection in the presence of HCl. These compds. are useful in the enhancement of weakened muscle tone and the treatment of conditions caused by androgen deficiency or which can be ameliorated by androgen administration, including osteoporosis, osteopenia, glucocorticoid-induced osteoporosis, periodontal disease, bone fracture, bone damage following bone reconstructive surgery, sarcopenia, frailty, aging skin, male hypogonadism, postmenopausal symptoms in women, atherosclerosis, hypercholesterolemia, hyperlipidemia, obesity, aplastic anemia and other hematopoietic disorders, inflammatory arthritis and joint repair, HIV-wasting, prostate cancer, benign prostatic hyperplasia (BPH), cancer cachexia, Alzheimer's disease, muscular



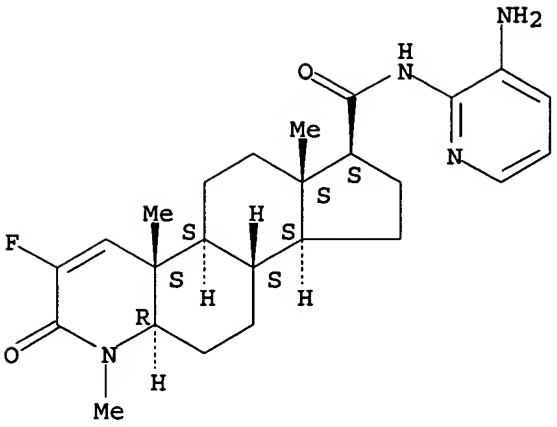
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:259887 CAPLUS
DOCUMENT NUMBER: 142:336518
TITLE: Preparation of 17β-heterocyclic-3-oxo-4-aza-5α-androst-1-ene derivatives as androgen receptor modulators
INVENTOR(S): Meissner, Robert S.; Mitchell, Helen J.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005025579	A1	20050324	WO 2004-US28641		20040902
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2004272004	A1	20050324	AU 2004-272004		20040902
CA 2537663	AA	20050324	CA 2004-2537663		20040902
PRIORITY APPLN. INFO.:			US 2003-501664P	P	20030910
			WO 2004-US28641	W	20040902

OTHER SOURCE(S): MARPAT 142:336518
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



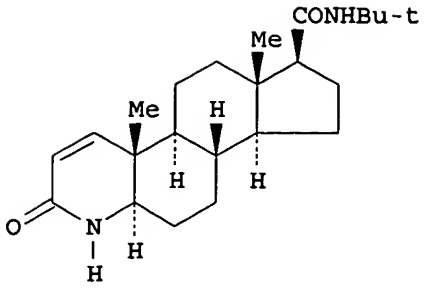
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:74124 CAPLUS
DOCUMENT NUMBER: 142:156211
TITLE: Method for the preparation of highly pure 1-androstene derivatives with an oxidizing agent while maintaining pH control
INVENTOR(S): Moon, Young Ho; Kim, Dong Jun; Park, Chul-Hyun; Lee, Kyung Ik; Lee, Jae Cheol; Lee, Gwan Sun; Chang, Young-Kil
PATENT ASSIGNEE(S): Hanmi Pharm. Co., Ltd., S. Korea
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005007670	A1	20050127	WO 2004-KR1786	20040719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1646640	A1	20060419	EP 2004-748452	20040719
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
US 2005245744	A1	20051103	US 2005-526158	20050301
US 7038050	B2	20060502		

PRIORITY APPLN. INFO.:	KR 2003-49529	A	20030719
	WO 2004-KR1786	W	20040719

OTHER SOURCE(S): CASREACT 142:156211
GI



I

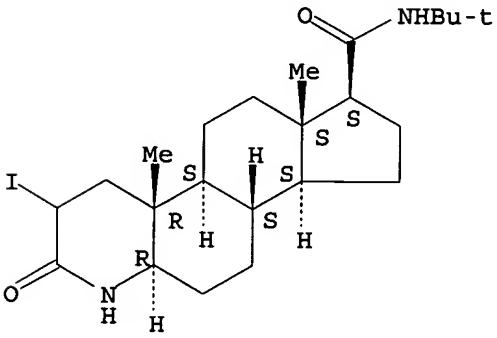
AB A method for preparing a 1-androstene derivative, I, which comprises reacting a 2-iodo-androstane derivative with an oxidizing agent while maintaining the pH of the reaction mixture at a specific range gives the 1-androstene derivative with high purity and yield.

IT **140700-61-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(method for the preparation of highly pure 1-androstene derivs. by treating a 2-iodo-androstane derivative with an oxidizing agent while maintaining the pH)

RN 140700-61-4 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)hexadecahydro-3-iodo-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:399259 CAPLUS

DOCUMENT NUMBER: 140:375356

TITLE: Preparation of 2,2-dibromo-azasteroid and its use for introducing a 1,2-double bond into azasteroids

INVENTOR(S): Slemon, Clarke; Macel, Bob

PATENT ASSIGNEE(S): Torcan Chemical Ltd., Can.

SOURCE: Can. Pat. Appl., 32 pp.
CODEN: CPXXEB

DOCUMENT TYPE: Patent

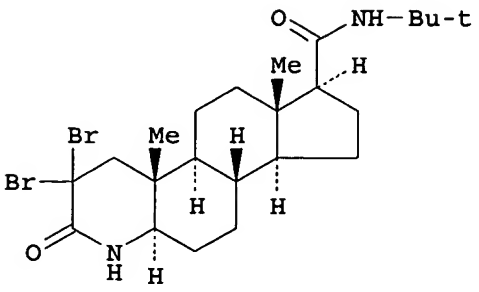
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

CA 2271974 AA 20001114 CA 2000-2271974 19990514
PRIORITY APPLN. INFO.: CA 2000-2271974 19990514
OTHER SOURCE(S): CASREACT 140:375356; MARPAT 140:375356
GI



I

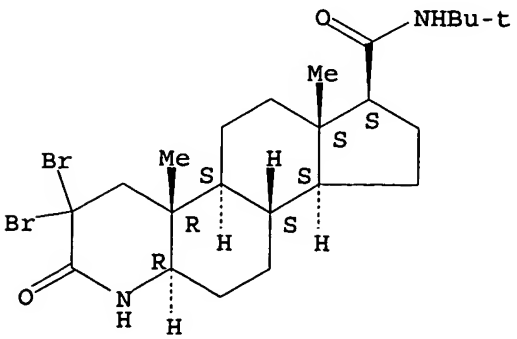
AB A process for introducing a 1,2-double bond into 17β-substituted-3-oxo-4-azasteroids includes the preparation of novel 2,2-dibromo-4-azasteroids by a three step process comprising oxalylation, reaction with excess bromine, and removal of the oxalyl group. This process is preferably carried out at temps. at or above -20°C and results in a high yield of the 2,2-dibromo-4-azasteroid. Thus, dibromodihydrofinasteride I was prepared from dihydrofinasteride. The 2,2-dibromo-4-azasteroid can be converted to the corresponding 17β-substituted-4-aza-5α-androst-1-ene-3-one, finasteride, by at least two processes, one of which involves correcting the oxidation state at the 2-carbon and then introducing the 1,2-double bond, and the other of which involves introducing the unsatn. to produce a vinyl bromide followed by correcting the oxidation state of the 2-carbon. Preferably, the dibromo compound is reacted with thiophenol to produce a 2-phenylthio intermediate, followed by oxidation of the phenylthio group to a sulfoxide and 1,2-elimination of the sulfoxide group to create the 1,2- double bond.

IT **684215-48-3P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of finasteride via dibromodihydrofinasteride)

RN 684215-48-3 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3,3-dibromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

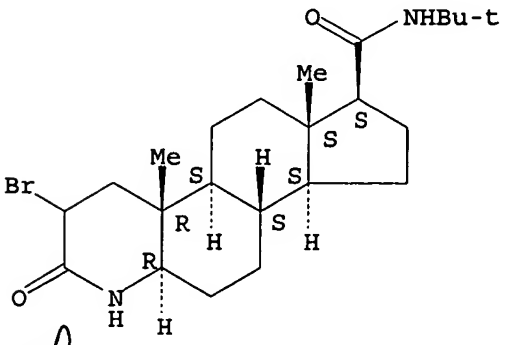
Absolute stereochemistry.



IT **140852-02-4P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of finasteride via dibromodihydrofinasteride)
RN 140852-02-4 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

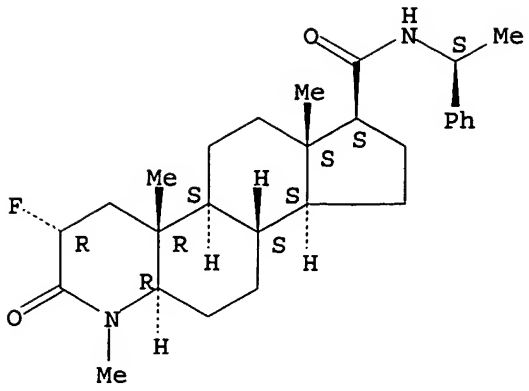
Absolute stereochemistry.



Inventor

L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:757525 CAPLUS
DOCUMENT NUMBER: 139:277056
TITLE: Preparation of fluorinated 4-aza-androstan-3-one-17β-carboxamide derivatives as androgen receptor modulators
INVENTOR(S): Meissner, Robert S.; Perkins, James J.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 95 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003077919	A1	20030925	WO 2003-US8277	20030307
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2478186	AA	20030925	CA 2003-2478186	20030307
AU 2003218235	A1	20030929	AU 2003-218235	20030307
EP 1485095	A1	20041215	EP 2003-714228	20030307
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
BR 2003008355	A	20050125	BR 2003-8355	20030307
US 2005165039	A1	20050728	US 2003-507239	20030307
CN 1652786	A	20050810	CN 2003-810485	20030307
JP 2005526082	T2	20050902	JP 2003-575972	20030307
NO 2004004312	A	20041012	NO 2004-4312	20041012
PRIORITY APPLN. INFO.:			US 2002-363822P P	20020313
			WO 2003-US8277 W	20030307



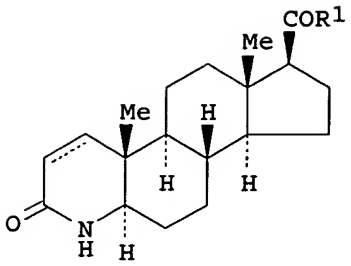
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:282583 CAPLUS
DOCUMENT NUMBER: 138:287866
TITLE: Process for the preparation of 17β-substituted-3-oxo-Δ1,2-4-azasteroids and intermediates thereof
INVENTOR(S): Gorgojo Lobato, Jose Maria; Lorente Bonde-Larsen, Antonio; Martin Juarez, Jorge
PATENT ASSIGNEE(S): Ragactives, S.L., Spain
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Spanish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

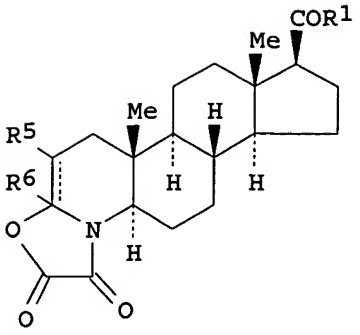
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003029267	A2	20030410	WO 2002-ES453	20020926
WO 2003029267	A3	20030619		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
ES 2185503	A1	20030416	ES 2001-2190	20010929
ES 2185503	B1	20040801		
CA 2461221	AA	20030410	CA 2002-2461221	20020926
EP 1437361	A2	20040714	EP 2002-779579	20020926
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005504130	T2	20050210	JP 2003-532513	20020926
US 2004254209	A1	20041216	US 2004-810128	20040326

PRIORITY APPLN. INFO.: ES 2001-2190 A 20010929
WO 2002-ES453 W 20020926

OTHER SOURCE(S): CASREACT 138:287866; MARPAT 138:287866
GI



I



II

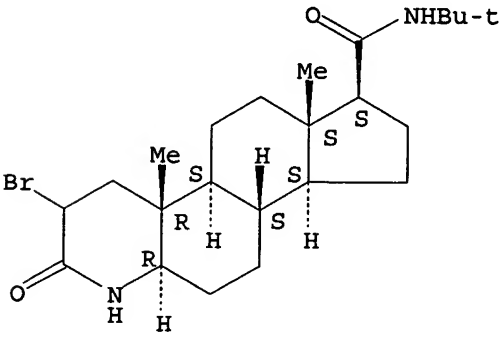
AB The present invention discloses a process for preparing 17β-substituted-3-oxo-Δ1,2-4-azasteroids, such as I [R1 = alkyl, OR2; R2 = alkyl, NR3R4; R3,R4 = H, alkyl; dashed line = double bond], from 17β-substituted-3-oxo-4-azasteroids I [dashed line = single bond]. Thus, I [R1 = NHBu-t; dashed line = single bond] was reacted with oxalyl chloride to provide oxazolidinedione derivative II [R1 = NHBu-t; R5,R6 = H; dashed line = double bond], which upon reaction with 1,3-dibromo-5,5-dimethyl-hydantoin in presence of perchloric acid afford 2-bromo-3-hydroxyoxazolididione derivative II [R1 = NHBu-t; R5 = Br, R6 = OH; dashed line = single bond (III)]. III was reacted with potassium tert-butoxide in presence of anhydrous DMF to afford I [R1 = NHBu-t; dashed line = double bond]. Some prepared compds. are inhibitors of testosterone-5α-reductase and can be used in the treatment of hyperandrogenic alterations.

IT **140852-02-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of 17β-substituted-3-oxo-Δ1,2-4-azasteroids and intermediates thereof)

RN 140852-02-4 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:423802 CAPLUS
DOCUMENT NUMBER: 123:102007
TITLE: Relationship between structure and activity of 5α-reductase inhibitors
AUTHOR(S): Guarna, A.; Marrucci, A.; Danza, G.; Serio, M.
CORPORATE SOURCE: Department of Organic Chemistry "Ugo Schiff", Firenze,

I-50121, Italy
SOURCE: International Congress Series (1994), 1064(Sex Hormones and Antihormones in Endocrine Dependent Pathology), 93-108
CODEN: EXMDA4; ISSN: 0531-5131
DOCUMENT TYPE: Journal
LANGUAGE: English

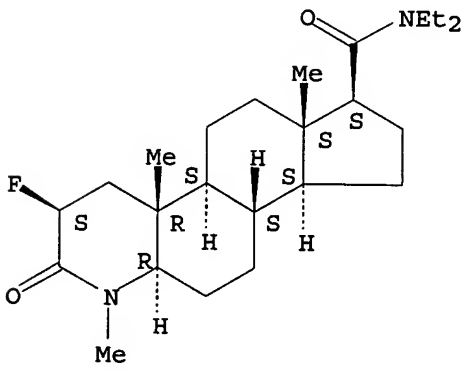
AB The enzyme steroid 5α-reductase (E.C.1.3.99.5) (5α-R) is a system of two NADPH-dependent isoenzymes which catalyzes the conversion of testosterone (T) to dihydrotestosterone (DHT) in many androgen-sensitive cells. The production of DHT is related to several human endocrine diseases such as benign prostatic hyperplasia (BPH), prostatic cancer, baldness, acne, alopecia in men and hirsutism in women. Thus, the blockade of the DHT formation without deprivation of T, by using selective 5α-R inhibitors, is an important target in pharmaceutical and medical research. A mol. modeling study has been developed to establish the indispensable mol. features to inhibit the human prostatic enzyme 5α-R. The active site model was obtained using the "active analog approach", by taking the differences between the combined vols. of a set of inactive mols. and the combined vols. of a set of active mols. The resulting three-dimensional area represents a part of the space occupied by the enzyme. This approach is useful to predict the inhibitory activity of steroidal compds. towards 5α-R because the values of intersection with the cavity model are inversely correlated with the inhibitory potency of the compds. Therefore chemical syntheses can be directed towards the compds. which showed a good structure-activity relation.

IT **106549-14-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(relationship between structure and activity of 5α-reductase inhibitors)

RN 106549-14-8 CAPLUS

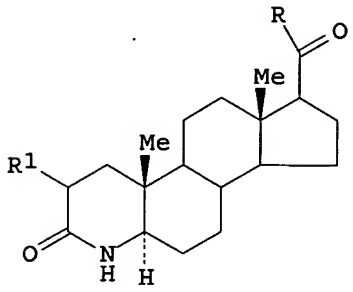
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N,N-diethyl-3-fluorohexadecahydro-1,4a,6a-trimethyl-3-oxo-, (3S,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:495910 CAPLUS
DOCUMENT NUMBER: 119:95910
TITLE: Iodotrimethylsilane-mediated 2-monohalogenation of 4-aza-5α-androstan-3-one steroids
AUTHOR(S): King, Anthony O.; Anderson, R. Kevin; Shuman, Richard F.; Karady, Sandor; Abramson, N. Lee; Douglas, Alan W.
CORPORATE SOURCE: Dep. Process Res., Merck and Co., Inc., Rahway, NJ, 07065, USA

SOURCE: Journal of Organic Chemistry (1993), 58(12), 3384-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 119:95910
GI



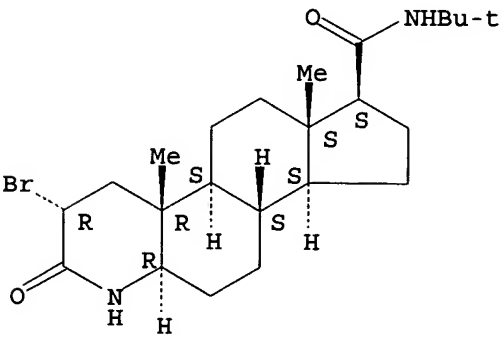
I

AB Selective and high-yielding iodotrimethylsilane-mediated 2-monohalogenation of the title compds. I (R = NHCMe3, OH, OMe: R1 = H) is described, and a mechanism for the reaction is proposed. The method provides 2-iodo-4-aza-5α-androstan-3-ones I (R1 = iodo) in essentially quant. yields.

IT **135252-08-3P 149198-44-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

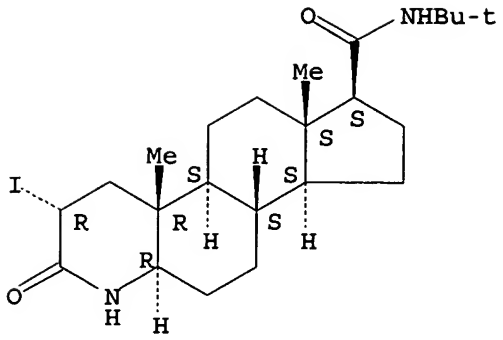
RN 135252-08-3 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (3R,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 149198-44-7 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)hexadecahydro-3-iodo-4a,6a-dimethyl-2-oxo-, (3R,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:490585 CAPLUS
DOCUMENT NUMBER: 117:90585
TITLE: Trialkylsilyl trifluoromethanesulfonate mediated α-methylenic carbon functionalization of 4-aza-5α-androstan-3-one steroids
INVENTOR(S): King, Anthony O. P.; Karady, Sandor; Anderson, Kevin; Douglas, Alan W.; Abramson, Newton L.; Shuman, Richard F.
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5091534	A	19920225	US 1990-572811	19900827
EP 473226	A2	19920304	EP 1991-202135	19910821
EP 473226	A3	19930623		
EP 473226	B1	19960731		
R: CH, DE, FR, GB, IT, LI, NL				
CA 2049881	AA	19920228	CA 1991-2049881	19910826
CA 2049881	C	19961022		
JP 04261194	A2	19920917	JP 1991-215265	19910827
JP 07017674	B4	19950301		
US 5187278	A	19930216	US 1991-786615	19911101
RO 111367	B1	19960930	RO 1993-261	19930225
RO 111368	B1	19960930	RO 1993-262	19930225

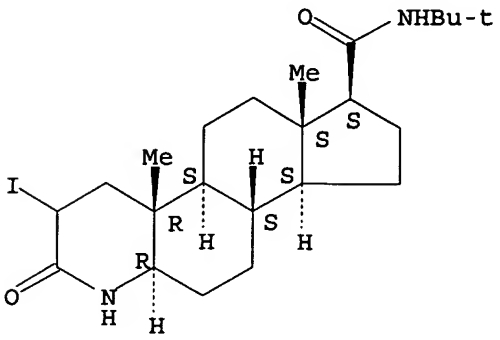
PRIORITY APPLN. INFO.: US 1990-572811 A 19900827
OTHER SOURCE(S): MARPAT 117:90585

AB The title process comprises α-silylation with CF3SO2OSiR3 (I; R = alkyl) followed by substitution with an electrophilic reagent such as dihalogen, PhSSPh, etc. Thus, Me 3-oxo-4-aza-5α-androstane-17β-carboxylate was treated with I (R = Me) at -78° followed by trichloromethylsulfonyl chloride (sic; presumably sulfenyl) to give Me 2-trichloromethylsulfenyl-3-oxo-4-aza-5α-androstane-17β-carboxylate, which was refluxed 4 h in MeCN to give Me 3-oxo-4-aza-5α-androst-1-ene-17β-carboxylate (II). Analogs of II are 5α-reductase inhibitors.

IT **140700-61-4P 141057-71-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as azaandrostenone intermediate)
RN 140700-61-4 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-

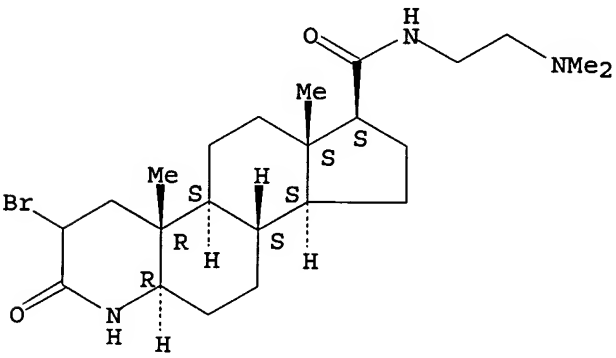
dimethylethyl)hexadecahydro-3-iodo-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 141057-71-8 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-[2-(dimethylamino)ethyl]hexadecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:235962 CAPLUS
DOCUMENT NUMBER: 116:235962
TITLE: Process for iodinating or brominating the alpha-methylenic carbon of a secondary amide
INVENTOR(S): King, Anthony On Ping; Abramson, Newton L.; Anderson, Kevin; Shuman, Richard F.; Karady, Sandor
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 473225	A2	19920304	EP 1991-202133	19910821
EP 473225	A3	19931118		
EP 473225	B1	19970709		

R: CH, DE, FR, GB, IT, LI, NL

US 5120847	A	19920609	US 1990-572920	19900827
CA 2049882	AA	19920228	CA 1991-2049882	19910826
CA 2049882	C	20020122		
JP 04261195	A2	19920917	JP 1991-215266	19910827
JP 06049674	B4	19940629		

PRIORITY APPLN. INFO.: US 1990-572920 A 19900827
OTHER SOURCE(S): CASREACT 116:235962; MARPAT 116:235962

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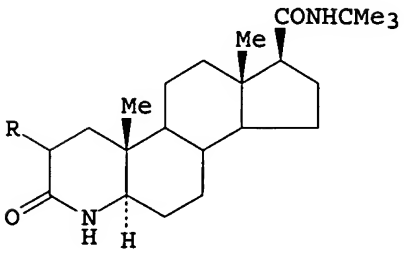


I

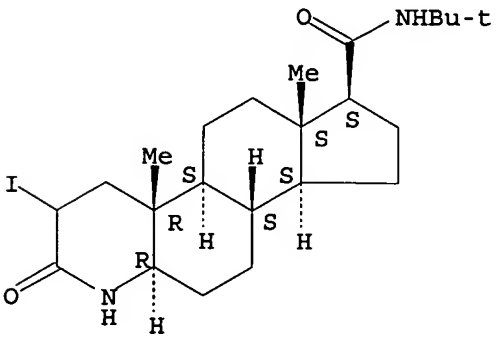
AB The α-methylenic C of a secondary amide is halogenated by Br or iodine in the presence of a trialkylsilyl halide. Thus, androstane I (R = H) was treated with iodine in the presence of Me3SiCl and Me2NCH2CH2NMe2 in PhMe to give I (R = iodo) quant. The latter compound was treated with KOCMe3 in DMF to give 1-androstene.

IT **140700-61-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydroiodination of)

RN 140700-61-4 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)hexadecahydro-3-iodo-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

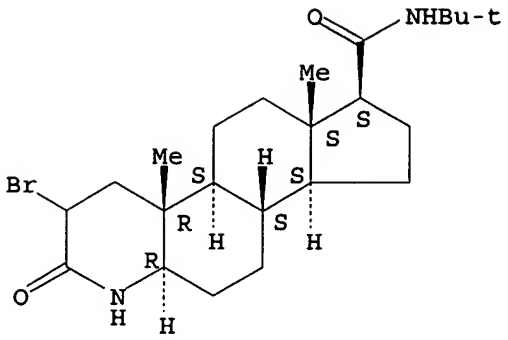


IT **140852-02-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 140852-02-4 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

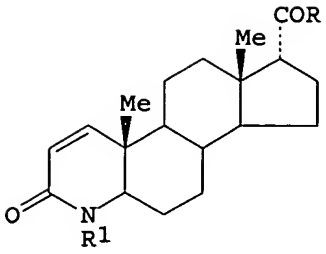
Absolute stereochemistry.



L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:472017 CAPLUS
DOCUMENT NUMBER: 115:72017
TITLE: Method for introducing a 1,2 double bond into azasteroids
INVENTOR(S): King, Anthony O.; Weinstock, Leonard M.; Anderson, Kevin R.; Shuman, Richard F.
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 428366	A2	19910522	EP 1990-312341	19901113
EP 428366	A3	19920729		
EP 428366	B1	19950920		
R: CH, DE, FR, GB, IT, LI, NL				
US 5021575	A	19910604	US 1989-434663	19891113
CA 2029859	AA	19910514	CA 1990-2029859	19901113
CA 2029859	C	20020514		
JP 03206096	A2	19910909	JP 1990-304208	19901113
JP 06051718	B4	19940706		
EP 655459	A2	19950531	EP 1995-200326	19901113
EP 655459	A3	19960522		
EP 655459	B1	20000503		
R: CH, DE, FR, GB, IT, LI, NL				
LV 12572	B	20010420	LV 2000-117	20000907

PRIORITY APPLN. INFO.: US 1989-434663 A 19891113
EP 1990-312341 A3 19901113
OTHER SOURCE(S): CASREACT 115:72017; MARPAT 115:72017
GI



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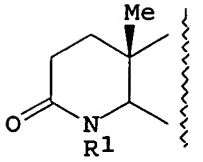


II

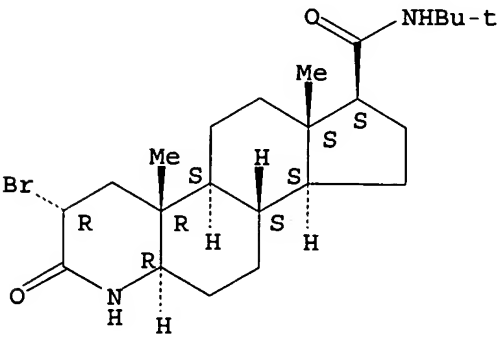
AB 1,2-Unsatd. azasteroids I [R = H, (un)substituted C1-12 alkyl, cycloalkyl, Ph, OH, alkoxy, OCH2Ph, amino; R1 = H, Me, Et] were prepared from saturated derivs. II in a 3-step 1-pot reaction. Thus, II (R = CMe3, R1 = H) was converted to oxazolidinedione derivs. with oxalyl chloride, brominated with Br, treated with MeNHCH2CH2OH to hydrolyze the oxazolidinedione, and dehydrobrominated with Me3COK. The overall yield of I (R = CMe3, R1 = H) was 60.2%.

IT **135252-08-3P 135252-09-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydrobromination of)

RN 135252-08-3 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (3R,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

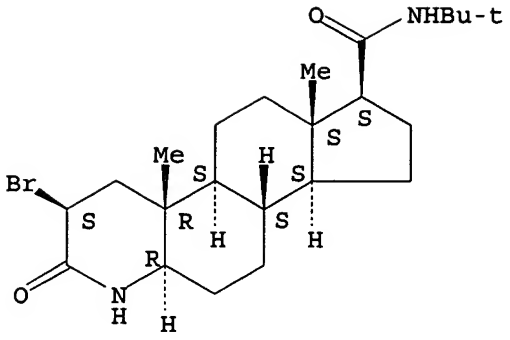
Absolute stereochemistry.



RN 135252-09-4 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, 3-bromo-N-(1,1-dimethylethyl)hexadecahydro-4a,6a-dimethyl-2-oxo-, (3S,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

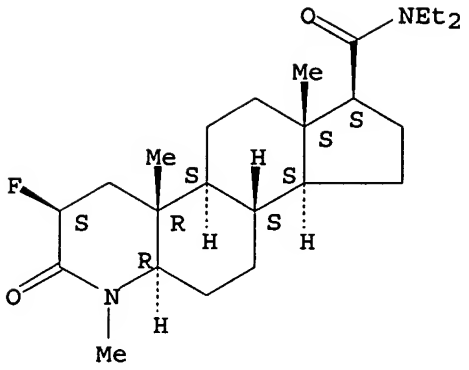


L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:78250 CAPLUS
DOCUMENT NUMBER: 106:78250
TITLE: 5α-Reductase-inhibitory and antiandrogenic activities of some 4-azasteroids in the rat
AUTHOR(S): Brooks, J. R.; Berman, C.; Primka, R. L.; Reynolds, G. F.; Rasmusson, G. H.
CORPORATE SOURCE: Merck Sharp and Dohme Res. Lab., Rahway, NJ, 07065, USA
SOURCE: Steroids (1986), 47(1), 1-19
CODEN: STEDAM; ISSN: 0039-128X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N,N-Diethyl-4-methyl-3-oxo-4-aza-5α-androstane-1β-carboxamide (4-MA) [73671-86-0] and 60 analogs were tested in vivo (in rats) for their ability to inhibit Δ4-3-keto steroid 5α-reductase [9036-43-5] activity in prostate glands and to inhibit androgen-induced growth of the prostate glands in immature animals. Enzyme inhibitory potency was usually seen with Δ1 analogs, whereas activity was decreased with substituents such as Δ5, a spirotetrahydrofuran had much greater oral antiandrogenic activity against testosterone [58-22-0] than dihydrotestosterone [521-18-6], due mainly to their inhibition of 5α-reductase activity preventing the conversion of testosterone to dihydrotestosterone. Thus, certain Δ1 analogs of 4-MA, particularly those with a 17β-(N-tert-butylcarbamoyl) group, proved very effective against testosterone but were relatively inactive against dihydrotestosterone.

IT **106549-14-8**
RL: BIOL (Biological study)
(antiandrogenic and 5α-reductase inhibitory activities of, structure in relation to)
RN 106549-14-8 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N,N-diethyl-3-fluorohexadecahydro-1,4a,6a-trimethyl-3-oxo-, (3S,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



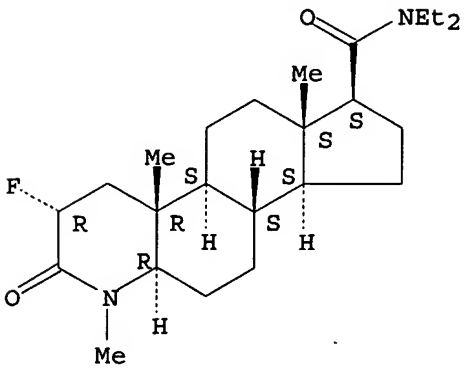
L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:33371 CAPLUS
DOCUMENT NUMBER: 106:33371
TITLE: Azasteroids: structure-activity relationships for inhibition of 5α-reductase and of androgen receptor binding
AUTHOR(S): Rasmusson, Gary H.; Reynolds, Glenn F.; Steinberg, Nathan G.; Walton, Edward; Patel, Gool F.; Liang, Tehming; Cascieri, Margaret A.; Cheung, Anne H.; Brooks, Jerry R.; Berman, Charles
CORPORATE SOURCE: Dep. Biochem. Endocrinol., Merck Sharp and Dohme Res. Lab., Rahway, NJ, 07065, USA
SOURCE: Journal of Medicinal Chemistry (1986), 29(11), 2298-315
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:33371

AB A series of steroids, primarily 4-azasteroids, were prepared and tested in vitro as inhibitors of human and rat prostatic 5α-reductase and of binding of dihydrotestosterone to the rat androgen receptor. The primary structural modifications were changes of the A ring and of moieties attached at the C-17 positions of the steroid nucleus. New A-ring modifications included the 4-cyano-3-oxo-Δ4 system in the carbocyclic series and 1α-CN, 1α-CH3, 1α,2α-CH2, 2β-F, 2-aza, 2-oxa, or A-homo changes in the 3-oxo-4-aza series. In addition, 4-azasteroids with a D-homo ring or Me substitution at C-7 (α and β) or C-16 (α and β) were prepared The majority of the C-17 substituents were prepared from reactive intermediates derived from the 17β-COOH. Enhanced 5α-reductase inhibition in both the human and rat enzyme assays was seen with 4-CN substitution on 3-oxo-Δ4 steroids and with a C-17 side chain incorporating a lipophilically substituted semipolar group on the 4-aza-3-oxo-5α-androstane nucleus. Fewer highly active compds. were found in the human enzyme assay than in the rat assay. Structural requirements for inhibition of the rat androgen receptor were much different from those for inhibition of the enzyme. The 17β-OH moiety enhanced potency more than any other feature, whereas introduction of double bonds at C-1 or C-5 in the azasteroid gave a small improvement. Azasteroids unsubstituted at the 4-position demonstrated greatly diminished receptor activity.

IT **104214-79-1P 104240-00-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for 2-methoxyazaandrostanecarboxamides)
RN 104214-79-1 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N,N-diethyl-3-fluorohexadecahydro-1,4a,6a-trimethyl-2-oxo-, (3R,4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA

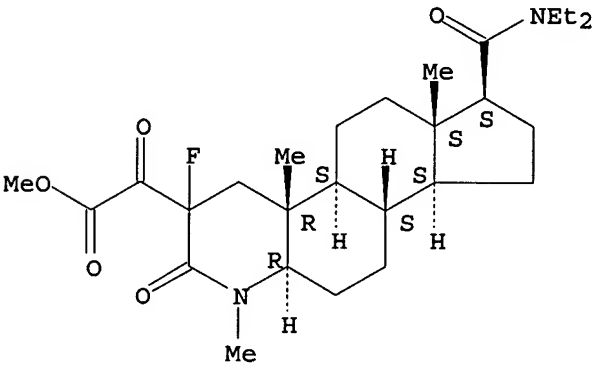
INDEX NAME)

Absolute stereochemistry.



RN 104240-00-8 CAPLUS
CN 1H-Indeno[5,4-f]quinoline-3-acetic acid, 7-[(diethylamino)carbonyl]-3-fluorohexadecahydro-1,4a,6a-trimethyl-α,2-dioxo-, methyl ester, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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L3 83 S L1 FULL

FILE 'CAPLUS' ENTERED AT 11:14:41 ON 17 MAY 2006
L4 13 S L3

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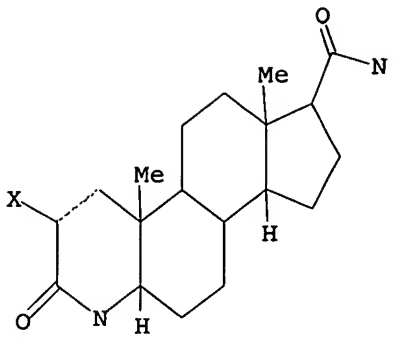

Structure attributes must be viewed using STN Express query preparation.

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